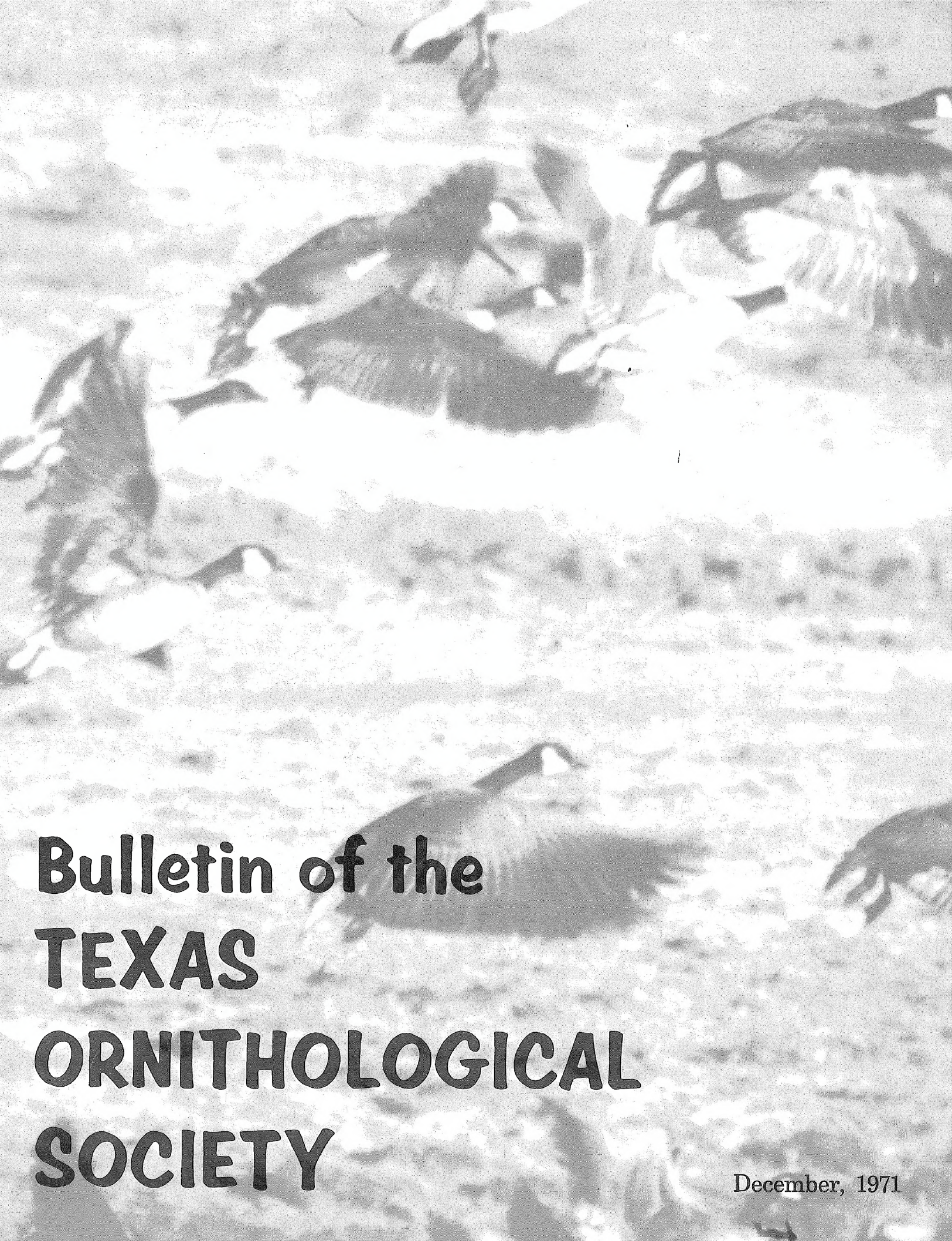

Bulletin of the TEXAS ORNITHOLOGICAL SOCIETY

December, 1971

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TEXAS ORNITHOLOGICAL SOCIETY

Volume IV, December 1971

2 Guadalupe
George A. Newman

6 The Status of the Cattle Egret in Texas
Jed J. Ramsey

8 Incredible Muleshoe
Bert Blair

9 EDF
Rick Luyre

10 A Gray Hawk in the Davis Mountains of Texas
Tony Mollhagen

Notes on Activity Levels of Burrowing Owls in Texas
J. B. Sosebee, Jr.

11 Book Reviews, Letters, TOS Meeting—1971

12 Recently Published Articles about Texas Birds

The Bulletin and Newsletter of the Texas Ornithological Society are issued to all members not in arrears for dues. Inquiries regarding membership should be addressed to Mr. George A. Newman, President, Texas Ornithological Society, Department of Biology, Hardin-Simmons University, Abilene, Texas 79601. Original articles, reports and news items submitted for inclusion in the TOS Bulletin should be sent to Dr. Michael K. Rylander, Department of Biology, Texas Tech University, Lubbock, Texas 79409. Inquiries regarding the TOS Newsletter should be directed to Mrs. M. H. Robinson, Newsletter Editor, Route 4, Wills Point, Texas 75169.

The cover photographs of Canada geese and sandhill cranes are by Bert Blair; the illustrations on pages 5 and 9 are by Tim High; the photograph of an immature common nighthawk on page 5 is by Dede Armentraut; and the gulls on the same page were photographed by Lee A. Jones.

GUADALUPE

Article and Photographs
by George A. Newman

The traveler who drives along highway 180 from Carlsbad to El Paso sees little to indicate that at one point he will pass within a few miles of the southernmost true coniferous forest east of the Continental Divide. The vegetation typical of the Chihuahuan Desert is quite common along this highway. One exception to this pattern is the region where the highway climbs to an elevation of about 5600 feet and winds its way through Guadalupe Pass. If one is observant as he travels parallel to the Guadalupe escarpment, in the region of the Pine Springs Highway Department Camp, he will notice numerous trees in the canyon areas and a dense wooded area silhouetted against the skyline of the Guadalupe Mountains. From the highway it is difficult to realize the nature of the wooded areas on top of the mountain. The trees appear as mere dots on top of the massive and abrupt cliffs on the eastern slope of the southern Guadalupe Mountains.

Perhaps the most spectacular introduction to the small coniferous forest in the southern Guadalupes—known as the "Bowl"—is by helicopter, which is the way I first became acquainted with this magnificent area. Dr. Frederick Gehlbach of Baylor University, who very likely has spent more research time in the southern Guadalupes than any other person, invited me to collaborate with him on an ecological study of part of the new Guadalupe Mountains National Park. I joined Fred in his investigations in 1969.

On May 26 I boarded a two-man helicopter near the stone Pratt house, now the park manager's headquarters, and within a few minutes was confronting the awesome beauty of the region. The transition from the desert-like vegetation of the southeastern slope to the coniferous forest biome is quite abrupt as one crosses over onto the top of the mountain. Magnificent ponderosa pines, limber pines and Douglas firs reach heights greater than 75 feet. Scattered clumps of Gambel's oak and alligator juniper are also common in the region of the Bowl. This was my first introduction to the area and I eagerly anticipated the bird life I was to study there.

It was necessary for the helicopter pilot to make three trips into the Bowl to bring supplies (including water) for my research. There is usually no water in the immediate vicinity of the Bowl during late May and almost all of June. Thunderstorms, which begin in July, fill the earthen tank located at the northern edge of the Bowl. Water from this tank is then available to wildlife for about ten months. The bird life is surprisingly rich here during June, even though the water seems to be relatively scarce.

May 26 through June 8, 1969 was one of the most interesting periods of my life. Since Fred was also coordinating research activities in other areas of the Guadalupes, I spent much of the time working alone. Roger Reisch, the park ranger, twice rode up on horseback to bring fresh beef and to check on my progress. The National Park Service is fortunate to have such a dedicated person as Roger to watch after this new national park.

GEORGE NEWMAN

GEORGE NEWMAN

My primitive camp was set at the edge of a small clearing. Because of the extreme fire hazard at this time of year, I cooked with containerized fuel in a small Coleman stove. The temperature ranged from a low of 28 degrees in the early mornings to a high of 50 degrees during the afternoon. Each morning, by the time the sun's rays first struck the tops of the trees, I had already finished breakfast and had begun my daily bird census.

It was in the Bowl that I first became acquainted with the pygmy nuthatch, a bird which adds character to the coniferous forest biome. These small, gregarious birds are a sight to watch as they forage in loose flocks in the tops of the pines and firs. They showed little concern for my presence. These little acrobats seem to spend about as much time up-side-down as they do right-side-up. A cousin of the pygmy nuthatch, the white-breasted nuthatch, is also a common summer resident in the Bowl. There seems to be little interaction between these two species.

The mountain chickadee is another delightful bird common in the Bowl. This parid is of course easily distinguished from other chickadees by the white stripe over the eye. It also performs interesting acrobatics while foraging.

Unlike nuthatches and chickadees, the brown creeper is solitary and inconspicuous as it searches for food on tree trunks. The creeper never seems to waste a minute. As if it had a definite plan in mind, it works its way up the trunk of a tree and then methodically flies to the bottom of another trunk to repeat the process of scrutinizing the bark for food.

Perhaps the most conspicuous bird I observed during my trip was the Steller's jay. Once I heard quite a commotion in the heavily wooded area near my campsite. Eight of these beautifully crested jays had discovered an owl and were chasing it into a nearby canyon. They showed little fear of my presence.

I was fortunate to become acquainted with another corvid while camping in the Bowl. During the first week of June, seven Clark's nutcrackers remained in the vicinity of my camp. Once I was able to approach within three feet of one of them as it busily turned over small rocks in the center of a trail. I found no evidence that nutcrackers nested in the Bowl.

Woodpeckers are represented by at least three common species: the hairy woodpecker, the acorn woodpecker, and the red-shafted flicker. Hybridization between red-shafted and yellow-shafted flickers is definitely indicated in specimens collected from the Bowl. I added the yellow-bellied sapsucker, a fourth species of breeding woodpecker, during a visit to the Bowl in June of 1971.

Three species of warblers commonly nest in the conifers and oaks. Of these, the male Audubon's warbler is the most strikingly colored. The nondescript orange-crowned warbler is the most common of the nesting warblers in the Bowl and Grace's warbler is the least common. Solitary vireos, warbling vireos and an occasional gray vireo represent the vireo family. The broken phrases of the solitary and gray vireos and the non-vireo-like song of the warbling vireo enhance the beauty of the forest orchestra.

The rufous-sided towhee, black-headed grosbeak and western tanager add both audible and visual beauty to this coniferous region. The black-headed grosbeak prefers to nest in the branches of the scattered clumps of Gambel's oak. The male grosbeak often sings from the nest as he takes his turn incubating the eggs. Towhees are consistent singers during the nesting season and are easily spotted in the Bowl as well as in the canyon woodlands.

Flycatchers are represented by three species. Western flycatchers and western wood pewees are fairly common. The olive-sided flycatcher occurs less frequently.

The lazy trill of the gray-headed junco can be heard throughout much of the day. The rusty-red back patch separates this species from the other two common juncos (Oregon and slate-colored).

I have recorded only one species of hummingbird in the Bowl during the breeding season, the broad-tailed hummingbird. This hummer is easily identified by the shrill sound emitted from the wings of the male while in flight.

The violet-green swallow commonly nests in the cavities of dead pine trees. This beautiful bird can usually be seen flying low in the vicinity of the meadow and around the earthen tank. The house wren sometimes utilizes a different cavity in the very same dead tree in which the swallow nests. The house wren is the only wren I have recorded nesting within the Bowl, although the song of the canyon wren is easily heard from the nearby canyons.

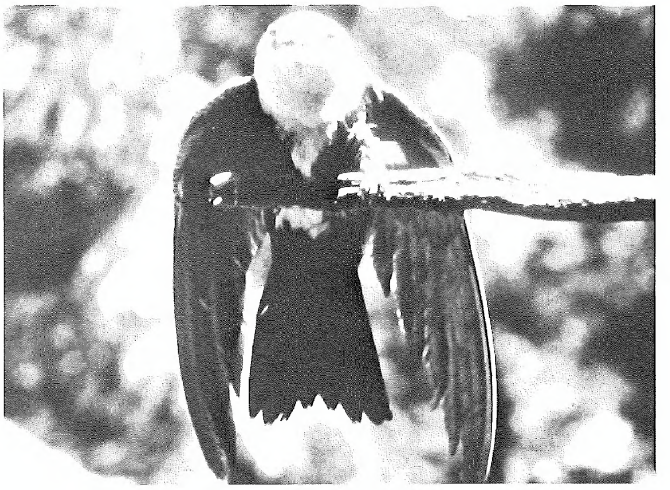
Gehlbach recorded nesting robins in 1965, but I did not find them nesting in 1969, 1970 or 1971. Two other members of the family Turdidae which I recorded from the Bowl are the hermit thrush and the western bluebird.

Though I have seen pine siskins in the Bowl during early June, I have no definite evidence that they nest there. A few band-tailed pigeons can be seen in the Bowl during late spring and early summer, but they are much more common in the large canyons to the north. Because of its relatively secretive nature and its somewhat subdued song, the chipping sparrow might be overlooked, but it is actually a fairly common breeding sparrow in this coniferous habitat.

Though I have not discovered turkeys nesting in the Bowl, I have occasionally heard gobblers and have seen turkey tracks around the earthen tank during October.

Birds of prey that can be observed during early summer include the golden eagle, Cooper's hawk, red-tailed hawk and sparrow hawk. The Cooper's hawk possibly nests within the Bowl. Turkey vultures commonly soar above the Bowl area.

The most pleasant times I recall from my 1969 trip to the Bowl are the evenings. Tired from the day's activities, I would sit on a log in the small meadow. As the setting sun cast a beautiful hue on the clouds, I would record the happenings of the day on a portable tape recorder. While it was still light enough to



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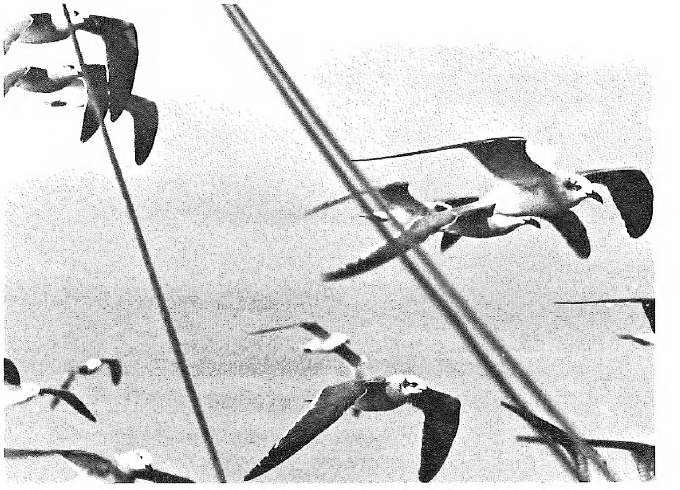


LEE JONES

see, common nighthawks would begin their graceful, undulating flights through the meadow in search of insects. About thirty minutes after darkness had descended on the Bowl, whip-por-wills would break the stillness of the night with their song. As if answering a threat, a poor-will would follow in song; and the exchange of songs between whip-por-wills and poor-wills sometimes continued until the early hours of the morning. Not infrequently, the hoots of a spotted owl would awaken me at night.

If one spends much time in the Bowl he may encounter the mule deer and wapiti elk. Early one morning I was startled when I found myself about twenty feet from a large, velveted bull elk that was coming along my trail from the opposite direction. We stared at each other for a split second, then the elk retreated "post-haste" and lumbered away through the undergrowth. The mule deer's natural predators, primarily the mountain lion, have been greatly reduced in numbers in the Guadalupe region. Because of this reduction, the natural regulation of the deer population has been impaired. The mountain lion is now protected within the boundaries of the new national park and there may have been a slight increase in the lion population since my initial investigations in 1969. I base this opinion solely on the increase in the number of lion tracks I have noticed in the Bowl region.

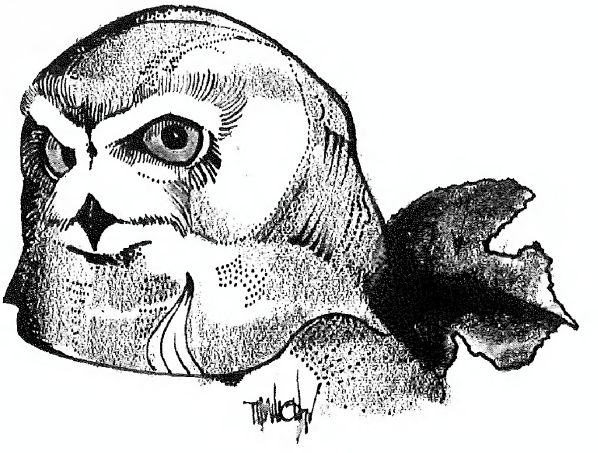
It is encouraging to realize that the lion may again inhabit the Guadalupes in its natural numbers. There are those who hope that even the black bear might once again roam the southern Guadalupes.

Man is currently faced with decisions that will determine the fate of the Guadalupe Mountains National Park. The delicately balanced region known as the Bowl, which I have briefly described, consists of an estimated 200 acres of true coniferous forest. Certainly this area cannot survive the impact of numerous people tramping on the forest floor. Currently there is no easy access to this forest island. It is my hope that the conscience of man will dictate, in the Bowl as well as in the other delicate communities in the Guadalupes, that the economically based values of tourism will give way to the more basic moral values of sharing and preserving the natural habitat for the survival of "lesser" animals that occur here.

EDITORIAL

It is encouraging to see the publication of the TOS Bulletin *resumed, after watching it lie dormant for almost two years. Perhaps all growing things face periods of dormancy—publications not excluded. And perhaps such periods are necessary for development, like the ineluctable pupal stage of insects. Pressing the analogy, we can observe that the* Bulletin, *like the pupa, was alive and developing all the time, even if life was not outwardly apparent. Discussions were being held regarding the appropriate nature of its contents; manuscripts were being submitted and edited. Most importantly, the TOS membership committed itself to support an expensive publication that would contain scientific notes as well as popular articles. Adopting such an editorial policy—the original policy of the* Bulletin—*is not a popular stand for an organization to take. More often than not such a publication alienates itself from both the "scientists" and "laymen" rather than draws the two groups together on a common meeting ground.*

But happily the experiment continues for the time being; and we expect that the diverse viewpoints regarding the nature of the Bulletin *will continue to be a source of its vigor. Therefore the* Bulletin *maintains its role as an outlet for the scientific, literary and artistic achievements of its members, as well as others having an interest in Texas birds and natural history.*
—M.K.R.



The Status of the Cattle Egret in Texas

BY JED J. RAMSEY

For various reasons, man has regularly introduced numerous species of birds to districts far removed from their native homes. Sometimes these introductions have benefited man, but more often they have proved to be harmful not only to man, but also to the new habitat.

The cattle egret, *Bubulcus ibis,* an immigrant presumably not aided in its immigration by man, is of particular interest to biologists because it has no counterpart in its new habitat, no species occupying the same niche. It has therefore tended to overpopulate its new home.

Originally this species inhabited Europe, Africa and the Near East. It later extended its breeding range into eastern Russia, Japan and Australia. How this species arrived in South America (and later North America) is uncertain, but they were reported in the Guianas as early as 1877. By 1962 they inhabited South America as far south as Equador and Bolivia. Haverschmidt, in 1968, referred to reports of cattle egrets in Bolivia, Peru, Surinam, Venezuela, Colombia, the Caribbean Islands, Panama, the United States and Canada.

Cattle egrets arrived in Florida in 1942 and nested there in 1953. They probably reached Texas in 1955, where they nested as early as 1958. Today, cattle egrets are a common sight in southeastern Texas and they have firmly established several important nesting sites along the gulf coast.

In 1969 we took the first comprehensive census of cattle egrets in southeastern Texas. We attempted to locate all heronries in this area and to set up a program whereby all future nesting sites would be reported to us. What follows is a summary of our results.

Sydney Island. Approximately 30,000 cattle egrets have been observed on this island, which was created when the intracoastal canal was formed. The heronry is located east of the mouth of the Neches River, about three miles south of Bridge City. The island is approximately one mile long and 100 yards wide and is covered by a few low bushes (*Baccharis* sp.) and trees (*Fraxinus* sp.)).

Smith Point. This heronry is located on one of the Vingt-et-un islands in Galveston Bay, about a mile from Smith Point. The island is approximately 250 yards long and at its widest point only 50 yards wide. At one end it is nearly devoid of plant life for ⅓ of its length. The remainder of the island is covered with salt cedar (*Juniperus)* and low bushes. About 2000 cattle egrets nest on this island.

Baytown. The two heronries next to highway 146 at the northern entrance to the Baytown tunnel are similar in size and habitat. They are about two acres in size and are covered with cactus (*Opuntia* sp.), low trees, some cane, and dead woody vegetation about six feet tall. The dead vegetation occupies about ¼ of the total heronry. In 1970, there were approximately 800 cattle egrets nesting in the heronry north of the highway, and about 3,000 in the heronry south of the tunnel.

North Deer Island. This island, about six miles south of Texas City, is about one mile long and 100 yards wide. It lies next to the intracoastal waterway and is covered with tall grass and low bushes. Numerous herons and egrets, including approximately 1,500 cattle egrets, nest in this heronry.

East Bernard. Three miles east of East Bernard, within 200 yards of the railroad and highway Alt. 90, nest a large number of ciconiiform birds in a grove of trees. The birds prefer to nest in the smaller trees, from four to 20 feet from the ground. About 5,000 cattle egrets nested in this heronry.

Eagle Lake. A heronry is located about three miles southwest of the town of Eagle Lake, on the west side of the lake. It contains approximately 2,000 cattle egrets in addition to other species. The vegetation of this nesting site is mainly willow (*Salix* sp.), which attains a height of about 25-30 feet. The nests are placed from four to 15 feet above the ground.

Warren Reservoir. About three miles south of Hockley, at the edge of a small lake, is found the Warren Reservoir heronry, among a number of willow and other deciduous trees. Birds nested at the western edge of Waller, in a group of deciduous trees, until that heronry was disrupted in 1966 with frightening devices. They moved from this site and settled at the Warren reservoir, where about 2,000 cattle egrets nested. In June, 1969, frightening devices (acetylene cannons), were again used on this flock of birds at the Warren Reservoir, but were withdrawn in 1970 and the birds nested that summer.

Ennis. On the outskirts of Ennis, between Ennis and Interstate highway 45, a large heronry is located in a group of trees along an intermittent stream. These trees range in height from low shrubs to about 45 feet tall. Approximately 9,000 cattle egrets nest in this heronry.

Cedar Lane. A large heronry is located about two miles northeast of Cedar Lane, in a small pond of water. About 2,000 cattle egrets nest in some short (10-20 feet tall) deciduous trees.

Wadsworth. A heronry is located about six miles east of Wadsworth, just north of highway 521. It is in a small pond and about 1,500 cattle egrets nest here in low deciduous trees.

Cayuga. A heronry was reported about six miles east of Cayuga, but I was not able to locate this group of birds. There are a large number of cattle egrets (est. 3,000) in the area and these undoubtedly nest nearby. I did not find any heronry in 1969, although subsequent searches may prove more successful.

All of these heronries except for the one near East Bernard are associated with water, and are either on an island or in trees that emerge from a pond or stream. The preferred location of the nests of the cattle egrets varies from just above the ground (in some cases, on Sydney Island, in the cane) to about 20 feet above the ground. Very few of the occupied nests are placed in the tops of the tallest trees (above 25 feet). Other species nest at this height, but generally the cattle egrets prefer the middle height.

The population of cattle egrets in Texas has increased from a very few in 1958 to at least 71,000 in 1970, in the area encompassed by this study. Undoubtedly there are other nesting sites. It remains to be seen whether this species will become a nuisance or a benefit to the ecosystem. The diet of these birds is almost exclusively insects (Burns and Chapin, 1969; and Hanebrink and Denton, 1969), so conceivably they could be quite beneficial. There are many suitable nesting sites in Texas so that even if they continue to increase, they would not necessarily compete with native species for nesting areas.

Information about nesting cattle egrets not included in this article may be sent to the author, Dr. Jed. J. Ramsey, Department of Biology, Lamar University, Beaumont, Texas 77705.

Literature Cited

Burns, E.C. and J. B. Chapin. 1969. Arthropods in the diet of the cattle egret, Bubulcus ibis, in southern Louisiana. J. Econ. Entom. 62:3.

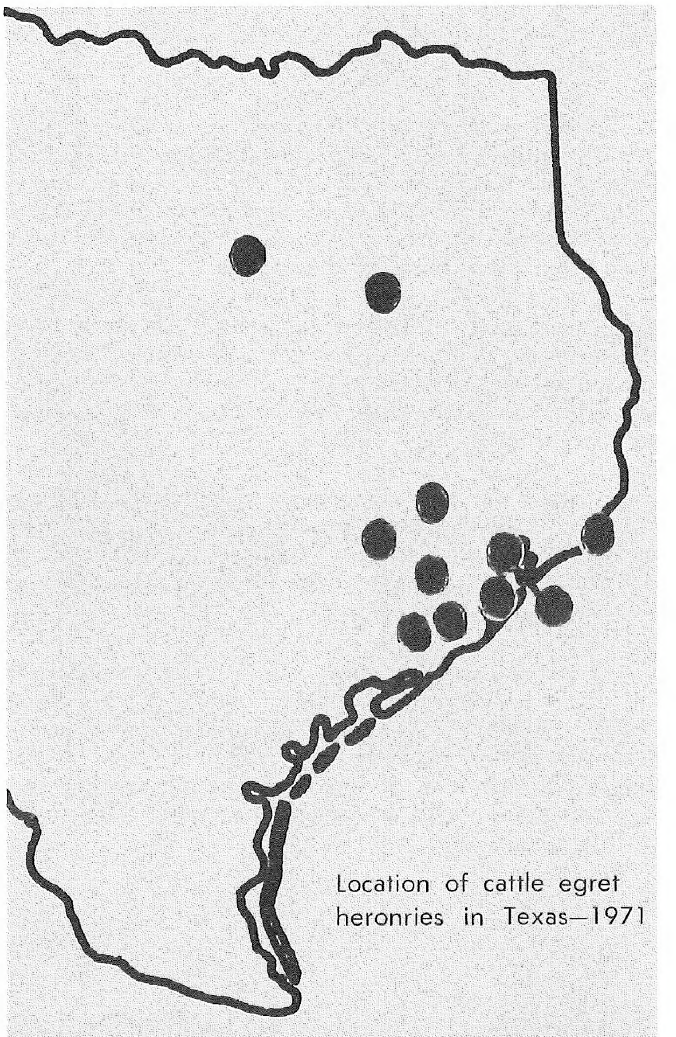
DeSchauensee, R. M. 1966. The species of birds of South America and their distribution. Livingston Publishing Co., Narbeth, Pa.

Hanebrink, E. L. and G. Denton. 1969. Feeding behavior and analysis of regurgitated food collected from the cattle egret, **Bubulcus ibis,** and the little blue heron, **Florida caerulea.** Ark Acad. of Sci. Proceedings, 23.

Haverschmidt, F. 1968. Birds of Surinam. Oliver & Boyd, London.

Peterson, R. T. 1960. A field guide to the birds of Texas. Houghton Mifflin Co., Boston.

Vaurie, C. 1965. The birds of the Palearctic fauna. H. F. & G. Witherby Lmtd., London.



Location of cattle egret heronries in Texas—1971

Muleshoe National Wildlife Refuge offers something of interest to all birdwatchers, naturalists, wildlife photographers and interested visitors.

INCREDIBLE MULESHOE

by Bert Blair

Birders, consider visiting the Muleshoe National Wildlife Refuge, long celebrated for its enormous waterfowl populations! Established in 1935 as a wintering area for migratory waterfowl, the refuge now comprises 5,800 acres. It has three sink-type lakes, without outlets, which provide 745 surface acres of water and mudflats for numerous kinds of birds. Topographically the refuge is rolling to hilly, and has prominent caliche rimrock outcrops near the north and west boundaries. The only source of water for the lakes are numerous gullies and draws which drain into them. The remainder of the refuge is natural prairie grassland dotted with mesquite.

The first migrating waterfowl arrive during August and reach their peaks normally by the end of December. During 1969 and 1970 the duck population peaked at 100,000 and the Canada goose population reached 45,000. As many as 70,000 ducks have been reported from the refuge.

The lesser sandhill cranes arrive the third week of September. Their numbers climb upward through November and reach a peak usually by December or January. Last December over 90,000 cranes roosted on the refuge.

One of the most delightful experiences the refuge offers is watching the sandhill cranes as they return from their feeding areas. They come in waves of 500 to 1000, beginning about 5:30 in the afternoon and continuing into the night.

Another feature worth viewing at Muleshoe is the eagle and hawk population. In 1970 the golden eagle population was 15; at the same time there were three immature bald eagles. Normally the refuge has fair populations of hawks, including nesting ferruginous, Swainson's and marsh hawks.

A variety of owls can be observed most of the time. The burrowing owl is in greatest abundance and at times more than seventy can be seen on the refuge. The Muleshoe Refuge offers a variety of habitats suitable for observing passerines, also. Large numbers of migrating warblers descend on the refuge each fall and spring causing the usual confusion and frustration known to many birders who attempt to identify some of the more obscure plumages.

The refuge checklist, containing 180 regularly occurring species and 33 accidentals, is continually updated. The 1969 Christmas bird count tallied 73 species and 115,012 individuals. The 1970 count produced 60 species and 168,000 individuals. We welcome and strongly encourage participation in the Muleshoe Christmas bird counts.

Muleshoe National Wildlife Refuge offers something of interest to all birdwatchers, naturalists, wildlife photographers and interested visitors. Although the refuge was originally set up for waterfowl, the habitat is managed as far as possible to accommodate all species of birds—a fact rarely appreciated by the birder who associates Muleshoe with waterfowl only. There are picnic and camping areas. Before you leave, please share your observations with us so we may update our bird list.

* * * * * *

Some of the Christmas count entries are impressive by anyone's standards: 20,000 Canada geese; 9,000 mallards; 23,000 green-winged teal, 8,000 American widgeons, 18,000 shovelers, 89,000 sandhill cranes. The refuge checklist shows several species that breed, including the mallard, blue-winged teal, cinnamon teal American widgeon, shoveler, Swainson's hawk, marsh hawk, white-winged pheasant (introduced), snowy plover, American avocet, burrowing owl, horned lark, lark bunting, and field sparrow. *—the editor.*

What is EDF? EDF is the Environmental Defense Fund, Inc., a legal action group of the scientific community that unites science and law in defense of the environment.

EDF is a nationwide coalition of scientists and citizens, founded in 1967 and dedicated to the protection of environmental quality through litigation and through education of the public.

EDF sues environmental offenders and gets action —faster than lobby, ballot box, or protest.

EDF is a national organization, and can go to court anywhere in the country. EDF will consider any kind of environmental case, and will tackle any offender—including the federal government. EDF intensively prosecutes a limited number of carefully chosen cases for maximum effectiveness.

What does EDF do?

Persistent Pesticides: EDF action has alerted the world to the disastrous effects of DDT contamination of the biosphere. EDF litigation curbed DDT in several states, and won a court order compelling the Departments of Agriculture and HEW to take action against DDT on a national level. An EDF suit helped end DDT pollution of a major wildlife refuge in Alabama. EDF is also acting against environmental contamination by other pesticides.

Air Pollution: In 1968 EDF filed suit against a national air polluter in Montana. Through this case EDF hopes to establish a legal precedent recognizing the right of citizens to a wholesome environment.

Cross-Florida Barge Canal: In 1969 EDF filed suit against the U.S. Army Corps of Engineers to stop a useless construction that would destroy one of the few wild rivers left in the eastern United States.

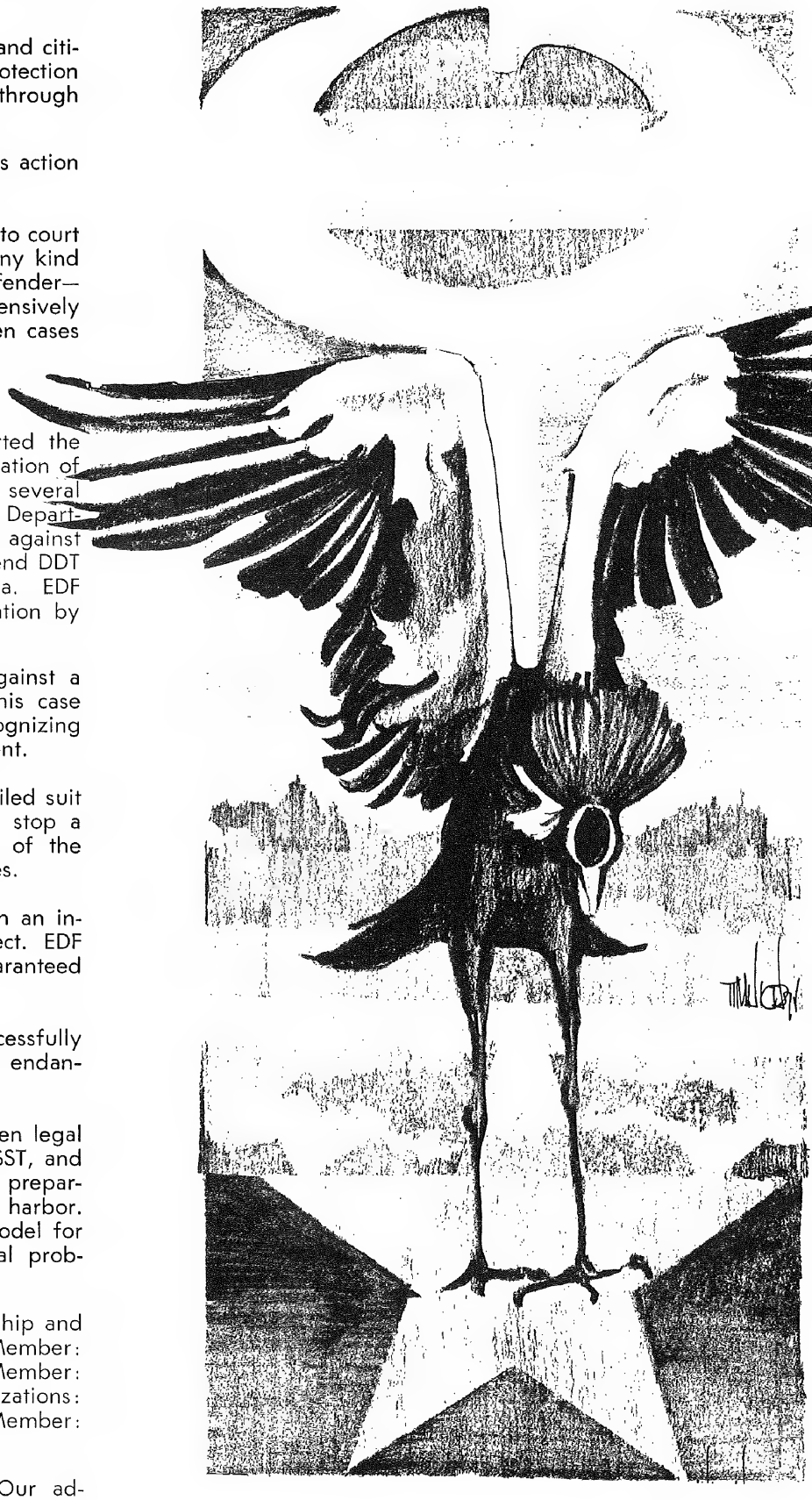
Trans-Alaskan Pipeline: In 1969 EDF won an injunction against this potentially disastrous project. EDF will insist that environmental safeguards be guaranteed before construction begins—not after.

Endangered Species: In 1970 EDF successfully argued that the great whales be placed on the endangered species list and protected by law.

Other Cases: Presently EDF has undertaken legal action to protect people from the hazards of SST, and lead pollution from auto exhausts. EDF is also preparing a case against the polluters of a Long Island harbor. Through this case EDF hopes to establish a model for community involvement in local environmental problems.

If you wish to support the EDF, membership and contributions are tax deductible. Student Member: $5.00; Basic Member: $10.00; Associate Member: $50.00; Supporting Member and Organizations: $100.00; Life Member: $1,000.00; Founding Member: $5,000.00.

Please make checks payable to EDF. Our address is: Environmental Defense Fund, 162 Old Town Road, East Setauket, New York 11733.—*R. Luyre, EDF.*



TIM HIGH

A GRAY HAWK IN THE DAVIS MOUNTAINS OF TEXAS

On 28 August 1969, while employed as a summer naturalist in the Davis Mountains State Park, I was given by Mr. Tim Conally a hawk that had apparently been struck by a vehicle and thrown to the shoulder of the road by the impact. The specimen was identified as a juvenal gray hawk (*Buteo nitidus*) that had nearly completed the molt to adult plumage. The recovery was made 3½ miles northeast of Fort Davis, Jeff Davis County, in an area where Limpia Creek passes next to and underneath the highway several times in a very short distance. The immediate habitat is riparian and is overstoried by large trees, chiefly cottonwood, (*Populus* sp.). This habitat differs perhaps only in detail from preferred habitat of the gray hawk in Arizona (Stensrude, Condor 67:319-321, 1965; Zimmerman, Aud. Field Notes 19:475-477, 1965).

Apparently Texas specimens have been collected only in extreme south Texas (Friedmann, U.S. Nat. Mus. Bull. no. 50, pt. XI, 1950), where the bird is an occasional summer visitor. Van Tyne and Sutton (Univ. Mich. Mus. Zool. Misc. Publ. no. 37, 1937) do not record the gray hawk for Brewster County; nor was this species included in the list of birds from the Sierra Vieja by Phillips and Thornton (Texas J. Sci. 1:101-131, 1951). Wolfe (Check-list of the birds of Texas. Intelligencer Printing Co., Lancaster, Pa., 1956) states that the gray hawk is a "rare" summer resident in Brewster and Presidio counties, but not in Jeff Davis County to the north. Mr. Roland Wauer (pers. comm.) sighted this species in Big Bend National Park, which is the basis of its inclusion in the check-list of the Park.

It seems clear that the death of this bird resulted from collision rather than from a gunshot wound. Shot found embedded in muscle tissue and bone showed every indication of having been healed for quite some time previous to its death. Although the status of this particular specimen in the Davis Mountains remains uncertain, we suggest that it was a bird which wandered post-nuptially, as such behavior is not uncommon among hawks.

I wish to thank Dr. Dean Amadon of the American Museum of Natural History for verifying the identification of the specimen, and Dr. Michael K. Rylander, Texas Tech University, for suggestions regarding the preparation of the manuscript.—*Tony Mollhagen, Department of Biology, Texas Tech University, Lubbock, Texas 79409.*

Notes On The Activity Levels Of Burrowing Owls In Texas

With its range vastly shrunk because of widespread destruction of its habitat, the burrowing owl *(Speotyto cunicularia)* has become scarce in the western areas of Texas. However, within the 5-acre prairie dog town preserve at Mackenzie State Park in Lubbock, Texas, approximately 50 of these owls continue to thrive. Amid the numerous prairie dogs, more than 20 can usually be seen at close range.

In an effort to determine if the number of owls visible at any particular time is influenced by a detectable stimulus, I censused the town once a week for six weks, at the same hour each day. I made a regular count of the owls at regular intervals through two consecutive days from sunrise to sunset. For each count the time, temperature, barometric pressure and general climatic conditions were recorded. With respect to temperature and barometric pressure, the number of owls varied at random; there were also random fluctuations during the six week period from day to day, except that during and immediately after a rain, when almost all prairie dogs were all below ground, the town seemed to be covered with burrowing owls. The owls did not seem to be at all bothered by the rain and could occasionally be seen flying from one part of the town to another.

The feeding activity of the owls fluctuated considerably during the day. Even in the early morning hours of darkness the owls could be heard calling as the first glimmer of light revealed active feeding, largely confined to insects flying over the town. Activity was so intense that frequently as many as four owls could be seen pursing a single insect. Between 6:30 a.m. and 7:00 a.m. (with sunrise at 6:45 a.m.) activity diminished to the point that feeding was observed only 23 times in the half hour following 7:00 a.m. Feeding activity continued at a sporadic low level throughout the day, averaging five times per half hour. By 8:00 p.m. (sunset at 9:00 p.m.), activity increased sharply, but was of a different nature from that observed in the mornings. Instead of feeding on insects flying over the prairie dog town, the owls began moving outside the town and hunting in the adjacent areas (park and golf course).—*J. B. Sosebee, Jr.*

book reviews

DIMENSIONS OF CHANGE by Don Fabun, 1971. Glencoe Press, Division of The McMillan Company (Beverly Hills, California and Collier-Macmillan Limited, London). 230 pages. $8.95.

"A six-part publication illustrated throughout in full color, this exciting book deals with technological responses to behavioral change that may take place in the next 30 years. Sections are titled "Ecology: The Man-Made Planet", "Shelter: The Cave Re-Examined", "Energy: Transactions in Time", "Food: An Energy Exchange System", "Mobility: From there to Here", and "Telecommunications: One World-Mind".

So reads the publisher's news release on **Dimensions of Change** by Don Babun, Director of Publications for Kaiser Aluminum and Chemical Corporation. This publication presents a thoroughly modern—perhaps even neo-modern—analysis of our time and puts forth far-reaching—and in some instances, "far out"—solutions to our society's manifold problems, both real and imagined.

The material, modern in approach and in presentation, if not entirely scientific, is certainly up to date—material is freely used from such mass media communications as **Harper's** and **TV Guide**. Each subject is defined, then analyzed. Problems and/or questions dealing with each section are emphasized and followed by solutions which may or may not be plausible, much less possible. Examples: to alleviate automobile parking and theft, simply leave the keys in your car so anyone can use it any time, any place (p. 163); to alleviate our communications problems, why not utilize ESP—mind to mind without words on paper, radio, or television (p. 220). (Which thus causes one to wonder if Lowell Thomas' newscasting would be as resonant, or if the pleasures of direct dialing via Ma Bell's push-button phones, would be adequately replaced by ESP).

The layout is eye-catching, with many full page color prints bordering on the surrealistic. In contrast, there are also several traditional educational diagrams and photographs. One prominent feature of the book is the "aside"— related comments or quotes placed in various type-settings on the page margins. These are entertaining as well as educational—a definite attribute of the publication.

It is difficult to tell just what type of audience might enjoy or appreciate this book. Certainly it may appeal to the young with its modern art and forward approach to today's problems—certainly the price is not prohibitive for this or any other age group. It is definitely geared toward the sophisticated layman interested in the environment. However, the professional conservationist or scientist will find little solace and even less meat between the covers of this highly illustrated volume. In any event, **Dimensions of Change** is a somewhat informative, yet highly imaginative book that will undoubtedly grace the coffee-tables of urban America.—Rebecca W. Bolen

ANIMALS IN MIGRATION, by Robert T. Orr. The Macmillan Company, N.Y. 1970. 303 pp. $10.00. During the past twenty years several books have appeared which treat the various aspects of migration, some quite technical, others oversimplified to the point of being of questionable value. Orr's book is recommended for the mature reader who is interested in understanding migration in **all** classes of vertebrates. This is exceptional among books on migration, but in order to grasp migration as a highly complex and often bewildering phenomenon, it is necessary to gain a broad perspective. Birds are necessarily given special emphasis, but Orr has given fair treatment to the literature pertaining to a large variety of animals. His style is fresh and lively and at the same time authoritative. Among the illustrations are nineteen striking color photographs and a number of black and white photographs. It is unfortunate that more of the so-called "laymen's" books cannot achieve Orr's balance between a simple, understandable style and respectable scholarship—M.K.R.

THE STORM PETREL AND THE OWL OF ATHENA, by Louis J. Halle. Princeton University Press, Princeton, N.J. 1970. 268 pp. $7.50. This somewhat novel book is not easy to classify. One should certainly not expect a monograph on storm petrels. It is rather a collection of essays, autobiographical sketches, anecdotes, philosophical musings and poetic descriptions, inspired for the most part by the author's response to nature. Halle's remarkable breadth of interests in the humanities as well as the sciences allows him to comment on nature in a unique manner: one's imagination appears exceptionally potent when history, philosophy, literature, music, art and so forth offer such a fertile field for associations. This book will be appreciated by those whose interest in nature is complemented by an interest in the humanities.—M.K.R.

letters

A middle-aged priest attending a retreat noticed that one of the other men there was occupying his free moments by looking at birds through binoculars, occasionally consulting a book. His curiosity was aroused. He knew that there were such things as birds. He had even heard about bird watchers. But what was it all about?

Back in his home parish, he mentioned the matter to a friend who happened to know something about birds, and who lent him a bird book. There didn't seem to be any hidden meaning or devious purpose in bird watching. It wasn't a means to an end; it was an end in itself. The clergyman began to see birds where he had seen none before.

When he returned the bird book to his friend he told him, "You know, I heard a bird sing the other day—for the first time."

How many people grow up so completely insulated from the natural world? More and more will do so in our bulldozed, paved and air-conditioned age. One way in which the Texas Ornithological Society can counter the trend is by encouraging a revival of good, old-fashioned nature study in schools and out—making sure that the nature studied is alive, not dead; and alive in its free habitat, not in captivity.

"You And The Birds—How You Can Help Them . . . Why You Should Not Harm Them", is the title of a new folder published by the Kindness Club, an international organization for young people who care about animals. It deals with birds on both a practical and an ethical level. Sketches by a nature-artist of repute, Edmund J. Sawyer, make it attractive. Teachers, parents and group leaders will find it useful in getting a bird project under way.

Single copies may be ordered free from the author, TOS member Mrs. Roger Montgomery, 1703 North Street, Nacogdoches, 76961. Order in quantity from the Kindness Club, National Humane Education Center, Waterford, Virginia 22190.—**Charlotte Baker Montgomery.**

Dear Sirs,

The Institute of Scientific Information of the USSR Academy of Sciences publishes .... series of the Abstracts Journal dealing with the major fields of science and technology. We receive more than 17,000 journals publishd in 100 countries of the world. We are trying to supply our readers with maximum information about the latest achievements in science and technology. Therefore we kindly ask you to send us a specimen copy of your publication free of charge, Bulletin of the Texas Ornithological Society.

Your journal will be studied carefully with the view of reviewing it in our Abstracts Journal. This will assist you in publicizing your journal.—Institute of Scientific Information, the USSR, Academy of Sciences.

TOS Meeting--1971

The T.O.S. Fall Meeting in Houston, November 25-28 was well attended by members from all parts of Texas as well as several out-of-state members and visitors. Our hosts had planned every detail with efficiency, and we appreciate all their hard work.

The excellent programs included slides of Houston area birds by John Tveten; slides of Rancho del Cielo by Mabel Deshayes; and slides by John O'Neill of his expeditions to Peru. Some of Mr. O'Neill's paintings were in display, including a beautiful painting of an aplomado falcon, and plates for the forthcoming book on Trinidad and Tobago.

Almost an aftermath of the meeting proved to be its birding highlight. As the business meeting was being adjourned, the sighting of an immature long-tailed jaeger near Gilchrist was announced. Naturally the report caused a stir of excitement, and the next morning (November 28) several carloads of TOS members went to find the bird. It was there—we all had remarkable views of it, some too close for binoculars; it even sat nearby on the beach sand. Many photographs were taken, and it was still there when we left. We understand that a little later in the day many birders from the surrounding area observed the bird. A fisherman said he had been watching the bird and feeding it since Friday, November 26.

The Spring T.O.S. Meeting will be held in Big Bend National Park. Registration will begin Wednesday afternoon, April 26, 1972, and the last field trip will be April 30.—Mrs. M. H. Robinson, T.O.S. Newsletter editor.

RECENT ARTICLES ABOUT TEXAS BIRDS

We include this section on recent journal articles for the following reasons: to inform TOS members of the scientific pursuits of other TOS members; to briefly summarize newly discovered facts about Texas birds; and to refer to articles about Texas birds which members may wish to read in more detail. This list is not exhaustive and represents for the most part articles that have appeared since 1968 in the Auk, Condor *and* Wilson Bulletin. *Abstracts of omitted articles are welcomed and will be included in the next* Bulletin.

Pulich, Warren M. 1971. Some fringillid records for Texas. Condor 73:111. A discussion of the 1969-1970 winter invasion of evening grosbeaks, and reports on other fringillid species collected recently in Texas. The evening grosbeaks collected in 1969 and 1970 strongly suggest that the invading birds that winter were from the east; the birds that were collected belonged to the eastern race of this species, and one of them was a male banded in Massachusetts.

Other birds collected and reported in this paper are the Cassin's finch (8 April 1961 in Bosque County), representing the only record for the north-central part of the state; the house finch (9 January 1960 in Dallas County); the pine grosbeak (24 December 1969 in Dallas County), representing the second specimen record for Texas; and the pine siskin (17 June 1969 in Potter County) in juvenile plumage, thus establishing the first authentic nesting record for the panhandle of Texas.

McGrew, Albert D. 1971. Nesting of the ringed kingfisher in the United States. Auk 88:665-666. Ringed kingfishers nested in a burrow of an arroyo 2 miles south of Falcon Dam during April, 1970. The nesting behavior of the adults is described in part. This represents the first nesting record of this species in the United States.

Russell, Dennis N. 1971. Food habits of the starling in eastern Texas. Condor 73:369-372. The author studied the stomach contents of starlings collected each month for a year near Nacogdoches, Texas, and compared his findings with those reported from New England by previous investigators. This interesting paper is rather detailed, and may best be summarized by quoting the author's own summary: "Animal food is eaten in greater quantities by Starlings in eastern Texas than in New England. Orthoptera are the most commonly taken insects in Starling diets in eastern Texas, and since these insects are generally considered harmful to grasslands, this makes the Starling a useful bird in the area. Coleoptera are eaten in large amounts during the late winter but are not taken in as large quantities as they are in the northeast. Gastropods and arachnids are important foods during the late winter but they may not be preferred foods since they are generally not found at other times of the year. Plant material is utilized in the fall when fruits that are highest in protein and fat, hackberry and Chinese tallow tree, are consumed in large quantities."

Freemyer, Howard and Sue Freemyer. 1970. Proximal nesting of Harris' hawk and great horned owl. Auk 87:170.—The nests of these two species were observed 4 miles north of Brackettville, in Kinney County, Texas. They were approximately 30 yards apart, which is somewhat unusual considering the general antagonistic behavior between the species. Their behavior is briefly described.

Aldrich, John W. and K. P. Baer. 1970. Status and speciation in the Mexican duck (**Anas diazi**). Wilson Bull. 82:63-72).—A technical discussion about this species; part of the authors' conclusions, as stated in their summary, may interest TOS members interested in west Texas birds: "The Mexican Duck has virtually the same overall geographic distribution now as formerly, which is southeastern Arizona, the Rio Grande Valley of New Mexico, and central-western Texas southward through the central highlands of Mexico to the Trans-Mexican Volcanic Belt south of Mexico City. However, it has disappeared as a breeding bird from much of this extensive area because of the drying up of its habitat. The trend of decline of the Mexican Duck and its breeding habitat, both in Mexico and the United States, indicates that it is probably in danger of extinction."

Wolfe, L. R. 1970. The eastern race of the evening grosbeak in south-central Texas. Auk 87:378.—Birds collected in 1969 in Kerrville represent a new subspecies record for Texas and an extension of their wintering distribution southwestward.

Wauer, Roland H. 1970. The occurrence of the black-vented oriole, **Icterus wagleri,** in the United States. Auk 87:811-812.—First observed 27 September 1968 in Big Bend National Park; another in that park was captured, banded and photographed in April of 1969. The specimens reported in this paper represent the first **documented** records of this species in the United States.

Lay, Daniel W. and Dennis N. Russell. 1970. Notes on the red-cockaded woodpecker in Texas. Auk 87:781-786.—A study of the ecology of this species in east Texas.

Pulich, Warren M. 1968. The occurrence of the crested hummingbird, **Orthorhynchus cristatus exilis,** in the United States. Auk 85:322. —This West Indian species was captured 1 April 1967 on Galveston Island. It represents the first record of this species for the United States.

Ramsey, Jed J. 1968. Roseate spoonbill chick attacked by ants. Auk 85:325.—Hatching chicks on a nest on an island in Sabine Lake, near Bridge City, Texas, were attacked by ants but were apparently unharmed, as the fledglings later appeared healthy.

Wauer, Roland H. and M. K. Rylander. 1968. Anna's hummingbird in West Texas. Auk 85:501.—Collected 5 November 1967 in Big Bend National Park.

Johnsgard, Paul A. and D. Hagermeyer. 1969. The masked duck in the United States. Auk 86: 691-695.—Includes many records from Texas; a general summary of this duck.

Rylander, Michael Kent and Eric G. Bolen. 1970. Ecological and anatomical adaptations of North American tree ducks. Auk 87:72-90. Study based on Texas birds.

Lamont, Thair and W. Reichel. 1970. Organochlorine pesticide residues in whooping cranes and Everglade kite. Auk 87:158-159. Specimens analyzed included a whooping crane shot by a hunter near Aransas National Wildlife Refuge, 4 January 1968. Referring to the results of the analyses, the authors state that the residues were low in the whooping crane.

Bolen, Eric G. and John J. Beecham, 1970. Notes on the foods of juvenile black-bellied tree ducks. Wilson Bull. 82:325-326. Analysis of crops and gizzards of young tree ducks taken at Lake Mathis (=Lake Corpus Christi).

Michael, Edwin D. 1970. Wing flashing in a brown thrasher and catbird. Wilson Bull. 82:330-331. Observations made in Nacogdoches County as these birds responded to the presence of a 32-inch long buttermilk snake. (**Coluber constrictor**).

Johnson, R. Roy and J. E. Johnson. 1968. A swallow-tailed kite in trans-Pecos Texas. Wilson Bull. 80:102-103. Sighted over Fort Davis, 26 August 1966.

Wauer, Roland H. 1970. A second swallow-tailed kite record for trans-Pecos Texas. Wilson Bull. 82:462. Sighted in Big Bend National Park, 5 August 1969.

Eisenmann, Eugene and J. I. Richardson. 1968. Yellow-green vireo collected in Texas. Wilson Bull. 80:235— Although frequently sighted in the lower Rio Grande Valley of Texas, a specimen collected 10 May 1966 by Richardson appears to be the first indisputable specimen on record.

Beasom, Samuel L. 1968. Some observations of social hierarchy in the wild turkey. Wilson Bull. 80:489-490.—Observations made in Medina County, Texas.

Sheilds, Robert H. and Earl L. Benham. 1968. Migratory behavior of whooping cranes. Auk 85:318.—Observations of the behavior of these birds at the Aransas National Wildlife Refuge, 6 April 1966, as they left their wintering grounds for the north. According to the authors, few people have witnessed the exodus of the whooping cranes from the refuge, and their behavior was noteworthy.

Ohlendorf, H. M. 1971. Arthropod diet of a western horned owl. Southwest. Nat. 16:124-125.—Collected in Jeff Davis County.

Wauer, Roland H. 1971. Ecological distribution of birds of the Chisos Mountains, Texas. Southwest. Nat. 16: 1-29.—An important analyis based on habitat.

Michael, E. D. and P. I. Thornburgh. 1971. Immediate effects of hardwood removal and prescribed burning of bird populations. Southwest. Nat. 15:359-370.—Studies in Nacogdoches County.

Boeker, Erwin L. and T. D. Ray. 1971. Golden eagle population studies in the Southwest. Condor 73:463-467.—This study included several Texas study areas.

Haucke, Harry H. 1971. Predation by a white-tailed hawk and a Harris hawk on a wild turkey poult. Condor 73:475—Observed at the King Ranch, Kleberg County, 6 May 1970.

Taylor, R. J. and E. D. Michael. 1971. Predation on an island heronry in eastern Texas. Wilson Bull. 83: 172-177.—Observations of a heronry, mostly of little blue herons, in Nacogdoches County in 1969. Crows were thought to be responsible for severe predation of the colony.

Ohlendorf, H. M. and R. F. Patton. 1971. Nesting record of Mexican duck (**Anas diazi**) in Texas. Wilson Bull. 83: 97.—Discovered in June, 1969, near Alpine, Brewster County.

Goering, David K. and R. Cherry. 1971. Nesting mortality in a Texas heronry. Wilson Bull. 83:303-305.—Statistics concerning a variety of species in Refugio County.

Wiley, Robert W. and Eric G. Bolen. 1971. Eagle-livestock relationships: livestock carcass and wound characteristics. Southwest. Nat. 16: 151-169.—Based on studies conducted in Texas.

Nelson, Richard C. 1971. An additional nesting record of the Lucifer hummingbird in the United States. Southwest. Nat. 15: 135-136.—Found 18 May 1968 in Big Bend National Park.

Wolfe, L. R. 1968. Recent breeding of common raven in west-central Texas. Condor 70: 280-281.

Bolen, Eric and B. W. Cain. 1968. Mixed wood duck—tree duck clutch in Texas. Condor 70: 389-390.—Discovered 16 June 1967 in Live Oak County.

Lemon, Robert E. and Andrew Hertzog. 1969. The vocal behavior of cardinals and pyrrhuloxias in Texas. Condor 71: 1-15.—Research conducted at the Welder Wildlife Refuge and Falcon Park.

Selander, Robert K. 1970. Parental feeding in a male great-tailed grackle. Condor 72: 238.—A male great-tailed grackle was seen feeding young in Austin. Normally the males of this species take no part in parental care of the young.

Littlefield, Carroll D. 1970. A marsh hawk roost in Texas. Condor 72: 245. —— As many as 66 marsh hawks were seen roosting together in Parmer County during the winter of 1967-1968.

Uhler, Francis M. and L. N. Locke. 1970. A note on the stomach contents of two whooping cranes. Condor 72:246.—Stomach analysis of the whooping crane illegally shot by a hunter near Aransas National Wildlife Refuge showed 57 per cent animal food by volume and 43 per cent vegetable food. Animal food included "brown-banded wentle trap" snails and small blue crabs.

Martin, Robert F. 1971. The canyon wren (**Catherpes mexicanus**) raiding food storage of a trypoxylid wasp. Auk 88:677. Apparently observed in Texas.

Pulich, Warren M. 1969. Unusual feeding behavior of three species of birds. Wilson Bull. 81: 472.—Near Dallas, the author observed summer tanagers feeding on wasps; a meadowlark feeding upon a skunk killed by an automobile; and a boat-tailed grackle soaking its food before eating it.

to be published in March 1972

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